



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/765,105	01/28/2004	Masahiko Watanabe	023484-0155	9730

22428 7590 08/26/2005

FOLEY AND LARDNER
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

CORRIGAN, JAIME W

ART UNIT	PAPER NUMBER
----------	--------------

3748

DATE MAILED: 08/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/765,105

Applicant(s)

WATANABE, MASAHIKO

Examiner

Jaime W. Corrigan

Art Unit

3748

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 March 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 9-17 is/are allowed.
6) ☒ Claim(s) 1-4, 6, 8 and 18 is/are rejected.
7) ☒ Claim(s) 5 and 7 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to the Request for Reconsideration filed on 03 March 2005. Overall, claims 1-18 are pending in this application. The arguments with respect to the references applied in the first Office Action were deemed persuasive, however, a new Non-final rejection is set forth below.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Murata et al. (PN 5,778,840).

Regarding claims 1, 18 Murata et al. discloses a driving rotational member (See Figure 1 (13)) driven by a crankshaft of the engine; an engine valve (See Figure 1 (2)) provided at an associated one of an intake port and an exhaust port for opening and closing the associated port; a valve spring (See Figure 1 (3)) biasing the engine valve in a direction closing of the associated port of the intake and exhaust ports; a driven rotational member including either one of a camshaft (See Figure 1 (11)) having a cam (See Figure 1 (6)) that opens the engine valve against a spring bias of the valve spring and a separate member integrally connected to and separable from the camshaft; and

an installation-angle adjusting (See Figures 1-5D (14), (15), (16)) mechanism disposed between the driving rotational member and the driven rotational member to transmit (See Column 11 Lines 31-67, Column 12 Lines 1-63) a torque of the driving rotational member to the driven rotational member, the installation-angle adjusting mechanism comprising a movable operating member (See Figure 3 (17), (18)) that varies a relative-rotation phase between the crankshaft and the camshaft by moving the movable operating member in a radial direction of the camshaft by an electromagnetic force (See Figure 4 (33), Column 15 Lines 35-67, Column 16 Lines 36) depending on engine operating conditions.

Regarding claim 2 Murata et al. discloses the installation-angle adjusting mechanism (See Figures 1-5D (14), (15), (16)) transmits the torque of the driving (See Figure 1 (13)) rotational member to the driven (See Figure 1 (11)) rotational member by converting a rotational movement produced depending on the engine operating conditions into a radial displacement (See Figure 4 (33), Column 11 Lines 31-67, Column 12 Lines 1-63, Column 15 Lines 35-67, Column 16 Lines 36) and further converting the radial displacement into another rotational movement.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-4, 6, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murata et al. (PN 5,778,840) in view of Muir et al. (PN 5,031,585).

Murata et al. discloses the rotational movement produced depending on the engine operating conditions is created by an electromagnetically operated motor (See Figure 4 (33), Column 16 Lines 1-36) and the installation-angle adjusting mechanism further comprises a restricting (See Figure 8 (A), (B), Column 15 Lines 15-23) mechanism that restricts the radial displacement of the movable operating member (See Figure 3 (17), (18)) in the radial direction of the camshaft when a relative-rotation phase between the driving rotational member and the driven rotational member reaches a predetermined value; the restricting mechanism comprises a stopper (See Figure 8 (A), (B), Column 15 Lines 15-23) that a connected end portion of the link (See Figure 3 (23), (24)) is brought into abutted-engagement with the stopper when the relative-rotation phase between the driving rotational member and the driven rotational member reaches a substantially maximum value; a cushioning mechanism (See Column 21 Lines 59-65, Column 22 Lines 19-33, 53-55 (The lubricating oil as a cushion)) provided at the stopper (See Figure 8 (A), (B), Column 15 Lines 15-23) or a member which is brought into abutted-engagement with the stopper.

Murata et al. fails to disclose the rotational movement is created by an electromagnetic brake.

Muir et al. teaches that it is conventional in the art to utilize the rotational movement is created by an electromagnetic brake (See Figure 1 ((26), (56), (18), (20); Column 4 Lines 18-28; Column 5 Lines 13-31).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the electromagnetic brake taught by Muir et al. in the Murata et al. device since it would improve timing device control.

Allowable Subject Matter

Claims 5, 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 9-17 are allowed.

Response to Arguments

Applicant's arguments with respect to claims 1-8 and 18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Jung (PN 5,941,202), Ma (PN 5,518,092) disclose similar valve timing control devices.

Any inquiry concerning this communication from the Examiner should be directed to Examiner Jaime Corrigan whose telephone number is (571) 272-4858. The Examiner can normally be reached on Monday – Friday from 8:30 a.m. – 6:00 p.m. 2nd Friday off.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Thomas E. Denion, can be reached on (571) 272-4859. The fax number for this group is (703) 872-9306.

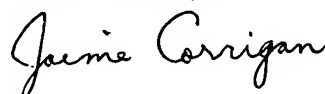
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-3700.

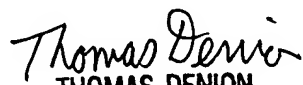
JC

August 22, 2005

Jaime Corrigan



Patent Examiner
Art Unit 3748


THOMAS DENION
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700